AMENDMENTS TO THE CLAIMS

1. (Canceled)

2. (Previously Presented) The method according to claim 19,

wherein the compensation of the wobbling and the rotating of the sample to be measured is implemented by a spherical mirror, where the sample is located in the centre of the curvature of the spherical mirror.

3. (Cancelled)

4. (Currently Amended) The method according to claim 21,

wherein a separation of the ~~radiation signal~~thermal radiation for the temperature measurement and the ~~radiation signal~~reflected light for the spectral-optical measurement is implemented by synchronised blanking of the irradiated light with respect to the spectral-optical measurement.

5. (Currently Amended) The method according to ~~claim 21,~~claim 4,

wherein the blanking is implemented by means of a shutter.

6. (Currently Amended) The method according to ~~claim 21,~~claim 4,

wherein synchronisation of the blanking takes place with respect to the rotation of a sample mounted on a sample carrier.

7. (Previously Presented) The method according to claim 6,

wherein additionally a measurement of a radial temperature profile of the sample carrier takes place.

8. (Currently Amended) The method according to claim 20,

wherein a ~~separation of~~ the pyrometer optical path and the optical path of the spectral-optical system ~~is caused~~ are separated by a beam dividing polarizing prism when said spectral-optical measurement is reflectance anisotropy spectroscopy.

9. (Previously Presented) The method according to claim 20,

wherein the pyrometer optical path is separated from the optical path of the spectral-optical measurement, where the angle of detection of the pyrometer with respect to the line perpendicular to the sample is identically equal to the angle of incidence of the spectral-optical measurement with respect to the line perpendicular to the sample.

10. (Currently Amended) The method according to claim 19,

~~wherein~~ further comprising a calculation of an effective emissivity $<\varepsilon>$ of a sample ~~is~~ carried out according to the formula

$$<\varepsilon> = (1-R_P) * (1+R_{ATS}*R_P) = \varepsilon_P * (1+ R_{ATS} *R_P)$$

where R_P is the reflectance of the sample, R_{ATS} the reflectance of the anti-wobbling-mirror and ε_P the emissivity of an absorbing sample without anti-wobbling-optics.

11. (Currently Amended) The method according to claim 19,

~~wherein~~ further comprising a calculation of an effective emissivity $<\varepsilon>$ of a transparent sample and transmissive measurement ~~is~~ carried out according to the formula:

$$<\varepsilon> = \varepsilon_{PT} * T_P * (1+R_{ATS}*R_P + R_{ATS} *T_P^2 * R_{PT})$$

where T_P is the transmission coefficient of the sample, R_P is the reflectance of the sample, R_{ATS} the reflectance of the anti-wobbling-mirror, R_{PT} the reflectance of a sample holder and ε_{PT} the emissivity of a sample carrier.

12. (Previously Presented) The method according to claim 19,

wherein the spectral-optical measurement is carried out using only one wavelength.

13. (Currently Amended) An apparatus for the determination of characteristic layer ~~parameters,~~parameters of a sample, comprising:

a spectral-optical ~~system;~~system receiving light from said sample;

at least one emissivity-corrected ~~pyrometer;~~pyrometer receiving thermal radiation from said sample;

analysis ~~means;~~means connected to said spectral-optical system and said at least one emissivity-corrected pyrometer; and

means for compensation of the wobbling and the rotating of the sample including a spherical ~~mirror,~~ mirror for reflecting light from said sample to said spectral-optical system wherein the sample is located in the centre of the curvature of the spherical mirror.

14-15. (Cancelled)

16. (Previously Presented) The apparatus according to claim 13,

wherein the means for the compensation of the wobbling and the rotating of the sample comprises a lens, a beam splitter and an aperture.

17. (Cancelled)

18. (Currently Amended) The apparatus according to claim 13,

~~wherein the apparatus additionally comprises~~further comprising at least one beam splitter or at least one beam dividing polarizing prism.

19. (Currently Amended) A method for the determination of characteristic layer parameters ~~by irradiation of light on to a layer structure~~ comprising the steps of:

irradiating light onto a layer structure;

at least one emissivity-corrected pyrometer receiving emitted thermal radiation from said layer structure;

~~determination of~~determining the temperature of the layer by means of the at least one emissivity-corrected pyrometer;

a spectral-optical system receiving reflected light from said layer structure;

said spectral-optical ~~measurement of~~system measuring the reflected light;

determination of the characteristic layer ~~parameters;~~parameters from said determination of temperature and said spectral-optical measurement,

~~wherein~~ during said determination of characteristic layer parameters the ~~a~~ wobbling and rotating of a sample ~~to be~~ is compensated ~~measured is compensated~~ by a lens, a beam splitter and an aperture.

20. (Currently Amended) A method for the determination of characteristic layer parameters ~~by irradiation of light on to a layer structure~~ comprising the steps of:

irradiating light onto a layer structure;

at least one emissivity-corrected pyrometer receiving emitted thermal radiation from said layer structure;

~~determination of~~determining the temperature of the layer by means of the at least one emissivity-corrected pyrometer;

a spectral-optical system receiving reflected light from said layer structure;

said spectral-optical ~~measurement of~~system measuring the reflected light;

determination of the characteristic layer ~~parameters;~~parameters from said determination of temperature and said spectral-optical measurement,

~~the pyrometer optical path and the optical path of the spectral-optical system being guided separately of each other.~~

an optical path of said emitted thermal radition to said at least one emissivity-corrected pyrometer and an optical path of said spectral-optical system being separated from each other.

21. (Currently Amended) A method for the determination of characteristic layer parameters ~~by irradiation of light on to a layer structure~~ comprising the steps of:

irradiating light onto a layer structure;

at least one emissivity-corrected pyrometer receiving emitted thermal radiation from said layer structure;

~~determination of~~determining the temperature of the layer by means of the at least one emissivity-corrected pyrometer;

a spectral-optical system receiving reflected light from said layer structure;

said spectral-optical ~~measurement of~~system measuring the reflected light;

determination of the characteristic layer ~~parameters;~~parameters from said determination of temperature and said spectral-optical measurement,

~~a separation of a radiation signal~~separating reflected light for the ~~temperature~~ spectral-optical measurement and ~~a radiation signal~~emitted thermal radiation for the spectral-optical measurement ~~being implemented~~ by blanking the irradiated light.